

Drain and Trash Disposal of Chemicals



Overview

The disposal of chemicals via a sink drain or with regular trash is highly regulated and subject to public concern and scrutiny. Federal, state, and city government agencies have established rules and regulations which strictly limit chemical disposal to the sewer and trash. These rules and regulations aim to protect human health and the environment from exposure to hazardous substances and to prevent damage to the City's water treatment facilities.

All Weill Cornell Medicine (WCM) refuse waste is collected, handled, and processed by numerous persons prior to its ultimate disposal. **To avoid potential exposure of WCM personnel or the general public, containers of chemical or biological agents are not to be disposed of with the regular trash.**

This Update provides instructions to determine if a chemical is acceptable for drain or trash disposal. Only non-hazardous chemicals, as determined by Environmental Health and Safety (EHS), may be suitable for drain or trash disposal.

Please note that this Update does not apply to the following categories of chemicals:

- [Electrophoresis Gels and Solutions](#)
- [Tissue Culture Media Wastes](#)
- [Photographic Processing Waste Containing Silver](#)

Please refer to the appropriate EHS Update for disposal procedures and information. Furthermore, EHS reserves the right to approve the discharge and/or disposal of certain wastes on a case-by-case basis.

Applicability

All WCM faculty, students, staff, visitors, and contractors who intend to dispose of chemicals via the drain or trash must strictly adhere to the procedures identified in this Update.

Responsibilities

Environmental Health and Safety (EHS) ensures that the information provided to the generators is concurrent with the laws and regulations governing the specific means of disposal. EHS reviews and updates the Non-Hazardous Chemical list on an as-needed basis.

Principal Investigators and Laboratory Managers establish policies and procedures that support the provisions of this Update and ensure that their personnel is trained in and compliant with those policies and procedures.

Waste Generators ensure that chemicals and empty containers are properly discharged, disposed of, recycled, and/or otherwise processed as established in this procedure and WCM's Waste Disposal Procedures. Generators obtain current copies of the Non-Hazardous Chemical List and Acutely Toxic Chemical List from EHS and Safety prior to disposing of chemicals and/or empty containers, as detailed in this procedure.

Chemical Selection Criteria

Only the chemicals identified on the [Non-Hazardous Chemical List](#) can be disposed of via drain or regular trash when following the procedures listed below. A chemical is acceptable for drain or trash disposal if it does not exhibit any of the following characteristics:

- Toxic substance which may adversely affect human health or the environment (e.g., have an oral-rat LD₅₀ toxicity value less than 500 mg/kg or identified as a toxic/priority pollutant by the EPA).
- Carcinogenic substance according to the National Institute of Occupational Safety and Health (NIOSH) [1979 Registry of Toxic Effects of Chemical Substances](#):



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- Hazardous waste as defined in 6 NYCRR Part 371-Identification and Listing of Hazardous Waste;
- Flammable (i.e., has flashpoint less than or equal to 140°F) or explosive liquids, solids, or gases;
- Noxious or malodorous gas or substance (e.g., mercaptans);
- Chemicals or substances containing any of the following metals:

— Arsenic	— Cadmium	— Copper	— Mercury	— Selenium	— Zinc
— Barium	— Chromium	— Lead	— Nickel	— Silver	
- Biological hazard; and/or
- Radioactivity.

Procedure

Please refer to the **Chemical Disposal Flowchart (Addendum A)** to assess the proper means for disposing of your chemicals. All chemicals can be managed and disposed of as hazardous wastes as detailed in the WCM [Waste Disposal Procedures](#).

LIQUIDS

1. Liquid chemicals to be disposed of via a drain must meet **ALL** the following characteristics:
 - Contain no radioactive materials (*Contact EHS at 646-962-7233 for the disposal of radioactive wastes*);
 - Contain no biological hazards;
 - Is listed on the [Non-Hazardous Chemical List](#)
 - If liquid does not exceed 5 gallons (19 liters);
 - Contains less than 10% solids or viscous substances which are insoluble in water;
 - Contains less than 50 mg/L (ppm) oils and greases; and
 - Have a pH greater than 5.0 and less than 11.0 or not have any other corrosive property likely to cause damage to structures or equipment of the sewerage system.
2. If your waste meets the criteria for drain disposal, discharge to the sewer via a laboratory sink drain only:
 - Flush with copious amounts of water (15-20 times the original volume); and
 - Allow the previous chemical to be completely flushed prior to discharging the next chemical waste.

Note: If one or more of the characteristics listed above do not apply to your waste, then please label and store it as a Hazardous Waste and submit a waste request through [Salute](#). For more information, please consult the *Waste Disposal Procedures manual* available on the [EHS website](#). Other chemicals may be suitable for disposal via this procedure. **The discharge of chemicals not specifically listed as Non-Hazardous Chemical is strictly prohibited.** Generators may submit requests for chemicals to be reviewed by contacting EHS. An EHS staff member will review the request to determine if the chemical should be added to the list.

SOLIDS

Though containers of chemicals are not approved for disposal via regular trash, standard laboratory articles (e.g., gloves, pads, etc.) contaminated with non-hazardous chemicals may be disposed of via the trash.

1. Contaminated laboratory debris to be disposed of via trash must meet the following characteristics:
 - Contain no radioactive materials (*Contact EHS at 646-962-7233 for the disposal of radioactive materials*);
 - Contain no biological hazards;
 - Its Chemical contaminant(s) is listed on the [Non-Hazardous Chemical List](#); and
 - Free of excess or free-flowing powders.
2. If possible, be consolidated into a bag or other container to minimize potential releases; and
3. Be placed in a normal trash receptacle for Housekeeping to collect.

Note: If a contaminated item contains excess powders, which may result in the forming of “dust clouds” during handling, then these items should be managed and disposed of as hazardous waste per WCM [Waste Disposal Procedures](#).



EMPTY CONTAINERS

A container is considered “empty” if it contains less than or equal to 3% by weight of its total capacity. Note: These guidelines do not apply to containers that contain [acutely toxic chemicals](#).

1. Empty containers to be disposed of via trash must meet the following characteristics:
 - Contains no radioactive materials (*Contact EHS at 646-962-7233 for the disposal of radioactive wastes*);
 - Contains no biological hazards;
 - Contains less than or equal to 3 percent by weight of its total capacity; and
 - Did not originally contain a chemical listed on the [Acutely Toxic Chemicals List](#). (Acutely toxic chemical containers must be managed and disposed of as hazardous waste as detailed in [WCM Waste Disposal Procedures](#))
2. Attempt to recover, collect, or use all of the container's contents (e.g., no contents should be able to immediately spill from the open container if held upside-down);
3. Triple rinse with water and discharge the water down a laboratory sink drain;
4. Remove or deface labels; and
5. Discard in an appropriate refuse container with lids removed for Housekeeping to collect:
 - Glass in a rigid cardboard/glass collection box. Securely close boxes and mark “CLEAN GLASS BOTTLES FOR DISPOSAL” on the box. There are also glass box products available through vendors such as [VWR](#) and [Fisher](#).
 - All others in a clear plastic garbage bag (double-bagged).

References

- EHS [Acutely Toxic Chemical List](#)
- EHS [Non-Hazardous Chemical List](#)
- EHS [Waste Disposal Procedures](#)
- NYSDEC 6 NYCRR Part 371 – Identification and Listing of Hazardous Waste NYCDEP Chapter 19 – Use of the Public Sewers
- NIOSH 1979 Registry of Toxic Effects of Chemical Substances USEPA 40 CFR 401.15 – Toxic Pollutants
- [Salute](#)
- [VWR Glass Box Link](#)
- [Fisher Glass Box Link](#)